The role of laboratory findings in the diagnosis, treatment and prognosis of bronchiolitis

Abstract

Background: Acute bronchiolitis is the most common cause of lower respiratory tract infection and hospitalization due to respiratory disease during infancy. The disease is mainly diagnosed based on history and clinical examination, with paraclinical investigation being of little value in the diagnosis. The present study aimed to determine the role of paraclinical tests in the management and treatment of children with acute bronchiolitis.

Methods: In this retrospective cross-sectional study, the medical records of infants aged 1-24 months admitted to Bahrami Children’s Hospital with initial diagnosis of bronchiolitis were reviewed. Demographic, clinical and laboratory data as well as data related to disease management were reported and the relationship between tests’ results and treatment, prognosis and length of hospital stay was analyzed by statistical methods.

Results: The records of 193 patients (55.4% male, mean age 3.88 ± 5.17 months) were reviewed. Complete Blood cells (CBC), C-reactive protein (CRP) and serum electrolytes (sodium and potassium) were measured in more than 90% of patients, blood culture and urine culture were performed in 50% and blood gas analysis in 65%. Serum electrolytes were in the normal range in all infants. Blood culture was negative in all patients. Active urine analysis was reported in 2.1% which revealed negative results on urine culture. One-third of patients received at least one type of antibiotic and 92.7% received ventolin. The majority (93.3%) of patients were discharged with a final diagnosis of bronchiolitis and the mean length of hospital stay was 2.6 days. There was no statistically significant relationship between laboratory results and PICU admission and length of hospital stay.

Conclusion: The findings of this study showed that laboratory tests and treatments incompatible with pediatric guidelines are widely used in bronchiolitis and do not play a decisive role in the prognosis and management of the disease.

Key Words: Bronchiolitis, Laboratory, Treatment, Guideline, prognosis

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